

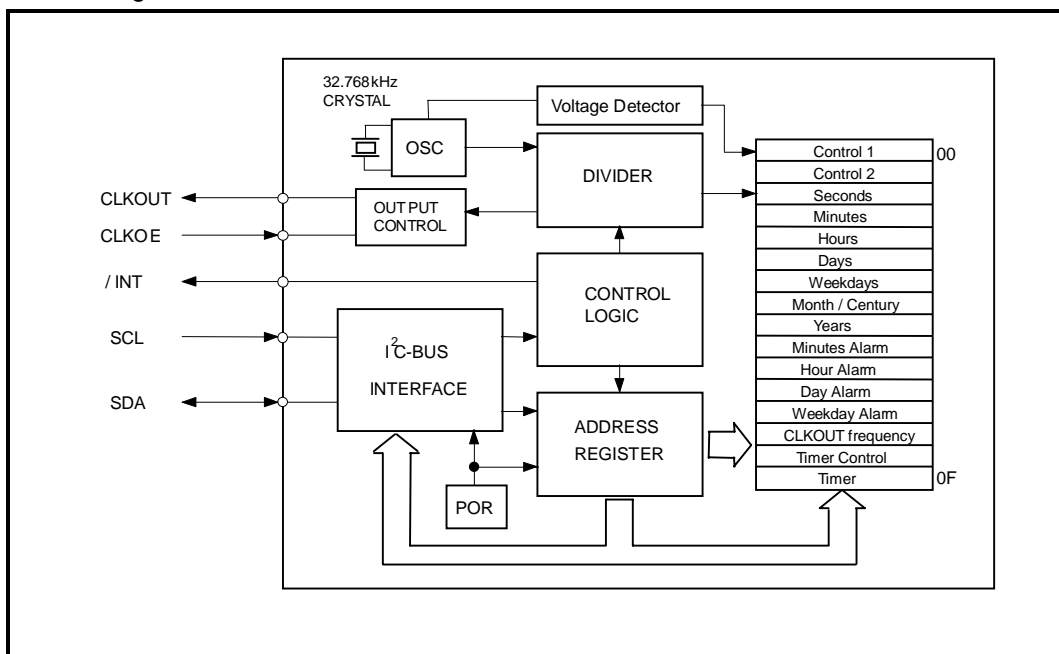
I²C-BUS interface RTC module

RX - 8564 CF

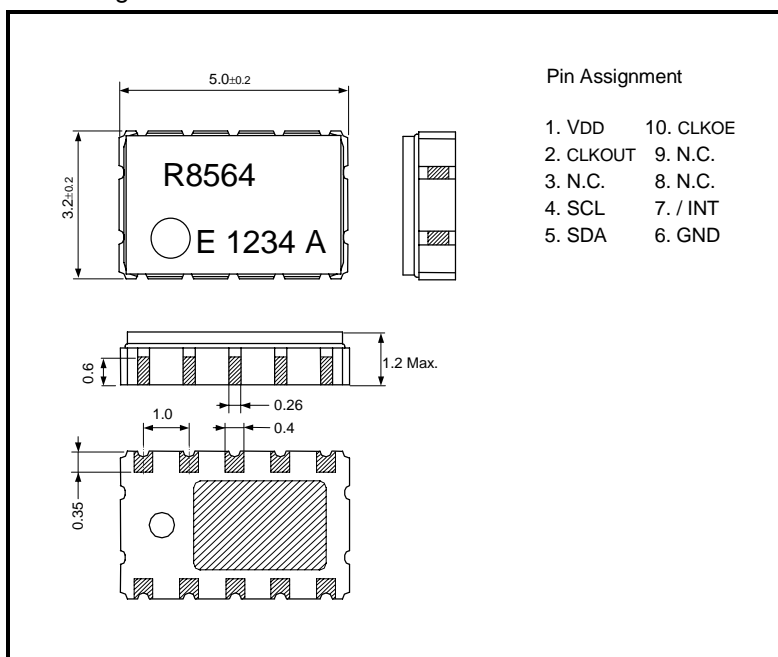
- Built in frequency adjusted 32.768 kHz crystal unit.
- Compliant with I²C high-speed bus specifications. (400kHz)
- Alarm and Timer IRQ function are Available. (32.768 kHz , 1024 Hz , 32 Hz , 1 Hz)
- 32.768 kHz clock frequency output. (FOE,FOUT)
- Automatic adjustment for leap year.
- Low backup current : 275nA / 3 V (Typ.)
- Wide operating voltage range : 1.8 V to 5.5 V
- Wide timekeeper voltage range : 1.2 V to 5.5 V
- Available as small package.(CF: SON-10pin)

The I²C-Bus is a trademark of Philips Electronics N.V.

■ Block Diagram



■ Pin Assignment



■ Pin Descriptions

Terminal	Pin No.	Descriptions
VDD	1	VDD
CLKOUT	2	Frequency output
SCL	4	Serial clock input
SDA	5	Data
GND	6	GND
/INT	7	Interrupt output
CLKOE	10	FOUT output enable

■ Specifications

1. Operating range

Item	Symbol	Condition	Min.	Max.	Unit
Supply voltage	V _{DD}	I ² C-Bus Active	1.8	5.5	V
Data holding voltage	V _{DD}		1.2	5.5	V
Operating temperature range	TOPR		-40	+85	°C

2. Frequency characteristics

Item	Symbol	Condition	Max.
Frequency tolerance	f / f ₀	Ta=+25 °C, V _{DD} =3.0 V	5 ± 23 x 10 ⁻⁶
Frequency temperature characteristics		Ta=-10 ~ +70 °C, V _{DD} =3.0 V	+10 x 10 ⁻⁶ / -120 x 10 ⁻⁶
Aging	fa	Ta=+25 °C, V _{DD} =3.0 V, First year	± 5 x 10 ⁻⁶

3. DC characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power current During access	I _{DD}	f _{scl} =400 kHz			800	μA
		f _{scl} =100 kHz			200	μA
Current consumption Backup mode	I _{DDO}	f _{scl} =0 Hz, V _{DD} =3 V		275	700	nA
		f _{scl} =0 Hz, V _{DD} =2 V		250	650	nA

■ Register table

Address	Function	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
00	Control 1	TEST	0	STOP	0	TEST	0	0	0
01	Control 2	0	0	0	TI / TP	AF	TF	AIE	TIE
02	Seconds	VL	4	2	1	8	4	2	1
03	Minutes	x	4	2	1	8	4	2	1
04	Hours	x	x	2	1	8	4	2	1
05	Days	x	x	2	1	8	4	2	1
06	Weekdays	x	x	x	x	x	4	2	1
07	Months / Century	C	x	x	1	8	4	2	1
08	Years	8	4	2	1	8	4	2	1
09	Minute Alarm	AE	4	2	1	8	4	2	1
0A	Hour Alarm	AE	4	2	1	8	4	2	1
0B	Day Alarm	AE	x	2	1	8	4	2	1
0C	Weekday Alarm	AE	x	x	x	x	4	2	1
0D	CLKOUT frequency	FE	x	x	x	x	x	FD1	FD0
0E	Timer control	TE	x	x	x	x	x	TD1	TD0
0F	Timer	128	64	32	16	8	4	2	1

• CLKOUT out put frequency

FD1	FD0	Frequency
0	0	32.768 kHz
0	1	1024 Hz
1	0	32 Hz
1	1	1 Hz

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RX-8564CF Ver. 0.5

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